DOCUMENT RESUME

ED 264 893 IR 051 403

TITLE Wisconsin Interlibrary Loan Telecommunications Committee and Implementation Progress. Final Report.
INSTITUTION Wisconsin State Dept. of Public Instruction, Madison.
PUB DATE Sep 85
NOTE 25p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Advisory Committees; Computer Software; Information Needs; *Interlibrary Loans; Library Cooperation; *Library Networks; *Library Planning; Library Services; Program Descriptions; State Programs; *Statewide Planning; *Telecommunications
IDENTIFIERS *Resource Sharing; *Wisconsin

ABSTRACT

A 2-year review and assessment of major interlibrary loan issues and problems was conducted by the Wisconsin Interlibrary Loan Telecommunications Committee, which was charged with studying and making recommendations on the best use of telecommunications equipment for transmission of interlibrary loan and reference requests by libraries within the state. A major goal of this study was to ensure compatability of equipment among libraries of all types, improve efficiency, keep costs as low as possible, and enable state level resource providers--e.g., Reference and Loan, WILS (Wisconsin Interlibrary Services), and Milwaukee Public Library--to respond as efficiently as possible to requests for service. This document reports the results of meetings throughout 1983 and 1984 at which committee members: (1) reviewed and discussed the background of major interlibrary loan planning efforts and resource sharing tools in Wisconsin; (2) reviewed and discussed interloan telecommunications methods and studies in Wisconsin and other states; (3) defined some key interloan telecommunications issues and problems; (4) defined some basic statewide interloan telecommunications needs; (5) defined and analyzed optional ways of meeting interloan telecommunication needs; and (6) developed short-term and long-term recommendations for interloan telecommunications in Wisconsin. The final section details the steps carried out during fiscal year 1984-85 to implement committee recommendations. An outline of the advantages and disadvantages of four potential formatting options for interlibrary loan requests is appended. (THC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
OERI
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
[X] This document has been reproduced as received from the person or organization originating it.
[ ] Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official position or policy.

ED264893

FINAL REPORT OF THE WISCONSIN INTERLIBRARY LOAN TELECOMMUNICATIONS COMMITTEE AND IMPLEMENTATION PROGRESS

September, 1985

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
L. Haematuck
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Wisconsin Department of Public Instruction
Herbert J. Grover, State Superintendent

IR051403

TABLE OF CONTENTS

		Page
SECTION I.	BACKGROUND ON THE WISCONSIN INTERLIBRARY LOAN TELECOMMUNICATIONS COMMITTEE	1
SECTION II.	INTERLIBRARY LOAN TELECOMMUNICATIONS ISSUES AND PROBLEMS	3
SECTION III.	INTERLIBRARY LOAN TELECOMMUNICATIONS NEEDS	5
SECTION IV.	INTERLIBRARY LOAN TELECOMMUNICATIONS OPTIONS	7
SECTION V.	RECOMMENDATIONS OF THE COMMITTEE	10
SECTION VI.	IMPLEMENTATION PROGRESS	15
APPENDIX A.	FORMATTING OPTIONS FOR INTERLIBRARY LOAN REQUESTS CONSIDERED BY THE COMMITTEE	17

SECTION I. BACKGROUND ON THE WISCONSIN INTERLIBRARY LOAN TELECOMMUNICATIONS COMMITTEE

Purpose

The Department of Public Instruction, Division for Library Services sponsored a Wisconsin Interlibrary Loan Telecommunications Committee for a two-year time period to review and assess some major interlibrary loan issues and problems. Specifically, it was the responsibility of this Committee:

> To study and make recommendations on the best use by Wisconsin libraries of telecommunications equipment for transmission of interlibrary loan and reference requests.

Rationale

The Committee was appointed because there was a great deal of interest in the Wisconsin library community in improving the efficiency and cost effectiveness of transmission of interloan and reference requests. Current equipment in some cases was wearing out; incompatible equipment and major increases in line charges were other serious problems. Libraries were using and experimenting with a variety of kinds of interloan telecommunications equipment and methods, including electronic mail, TWX, TWP, microcomputers, U.S. mail, OCLC, and various computer terminals.

In order to ensure compatibility of equipment among libraries of all types around the state, improve efficiency, keep costs as low as possible and enable state level resource providers, such as Reference and Loan, WILS, and Milwaukee Public to respond as efficiently as possible to requests for service, interloan telecommuncation issues needed to be looked at on a state wide basis.

Members

The State Superintendent appointed the following librarians in March, 1983 to serve on the Interlibrary Loan Telecommunications Committee:

Kathleen Gosz, Director
Waukesha County Library System
(414-548-6000)

Kathy Schneider, Director
Wisconsin Interlibrary Services
(608-263-2773)

Jerry Perona, Librarian
Gateway Technical Institute, Kenosha
(414-656-6923)

Tom Tomczak, Coordinator of
General Services
Milwaukee Public Library
(414-278-3000)

Judy Aakre, Library Media Specialist
CESA #11, La Crosse
(608-785-9373)

Marijane Reich, Librarian
Mendota Mental Health Institute
(608-244-2411 Ext. 277)

Hannelore Rader, Director
UW-Parkside Library
(414-553-2221)

Don Holmen, District Media Director
Waunakee High School
(608-849-8171)

Linda Oddan, Associate Director,
Information Services
Medical College of Wisconsin
(414-257-8323)

Kathy Isaacson, Reference Librarian
Lawrence University
(414-735-6752)

Charles Perdue, Director
Manitowoc-Calumet Library System
(414-682-6861)

DLS Project Coordinator:
Peg Branson, Consultant
(608-266-2413)

DLS Resource People:

Sally Drew, Director
Reference and Loan Library
(608-266-1081)

Phil Schwarz, Automation Consultant
Division for Library Services
Librarian, UW-Stout
(715-232-1272)

Committee Activities

At meetings throughout 1983 and 1984 Committee members did the following:

1. Reviewed and discussed background on major interlibrary loan planning efforts and resource sharing tools in Wisconsin.

2. Reviewed and discussed interloan telecommunications methods and studies in Wisconsin and other states.

3. Defined some key interloan telecommunications issues and problems. (See Section II below.)

4. Defined some basic statewide interloan telecommunications needs. (See Section III below.)

5. Defined and analyzed optional ways of meeting interloan telecommunication needs. (See Section IV below.)

6. Developed short-term and long-term recommendations for interloan telecommunications in Wisconsin. (See Section V below.)

SECTION II. INTERLIBRARY LOAN TELECOMMUNICATIONS ISSUES AND PROBLEMS

The issues and problems identified by the Committee were:

1. Telecommunications compatibility
   - more than one system is ok if the systems are compatible
   - some libraries, such as Reference and Loan and WILS, have to respond to a variety of systems
   - Standardization of hardware, software and messages is desirable

2. The state of technology
   - technology is changing so fast it is hard to keep up
   - systems may become obsolete very quickly
   - we need to look at the possibilities for upgrading equipment or systems

3. Telecommunications costs
   - costs for different systems can vary a great deal
   - Libraries vary in terms of access to money for something new
   - funding sources, such as boards and administrators, need to be involved in planning for changes
   - interloan is not free

4. Multiple uses of systems
   - systems used for telecommunications can apply to more than interloan operations
   - do we want a system to transmit messages only or to do other work
   - we need to look at potential uses of systems, such as capability for compiling statistical information

5. Educational efforts and training requirements
   - training people to use different systems requires time, effort and money
   - there are so many different levels of awareness of changing technology
   - we need to create an awareness of the potential impact of changing technology
   - library schools need to keep abreast of changes in technology
   - librarians need to be willing to change procedures and techniques instead of doing things the way they have always been done
   - there are fears about machines replacing people

6. Variety of needs and levels of use to accomodate
   - the needs of small libraries and large libraries are not the same
   - the needs of large volume users as well as small volume users need to be considered
   - effect of telecommunications on big and small libraries

7. Numerous jurisdictions to deal with
   - we need to deal with different bureacracies, such as the Department of Public Instruction, Wisconsin Interlibrary Services (WILS), Council of Wisconsin Libraries, University of Wisconsin, Vocational Technical Adult Education, etc.
   - different agencies have control over different parts of the network at the area and state levels

8. Interloan patterns and telecommunications
   - more libraries are interloan providers today; small libraries as well as large libraries lend materials
   - funding patterns may not be keeping pace with sharing patterns (large libraries used to be the major providers and got paid; small libraries are providing more and aren't necessarily getting paid)
   - reciprocity; where does the balance come

9. Interloan services and telecommunications
   - telecommunications is only a part of the service; document delivery is still a problem

10. Long-range planning
   - there are many options for telecommunications, such as, mail, TWX, fiber optics, etc. We need to look at both short-term and long-term options (look at immediate problems with the long term in mind)

SECTION III. INTERLIBRARY LOAN TELECOMMUNICATIONS NEEDS

A. General Telecommunications Needs

The general needs identified by the Interlibrary Loan Telecommunications Committee were:

1. Interloan telecommunications systems should be useable to a variety of libraries
   - accessible to small and large libraries
   - meet the needs of libraries with different levels of sophistication
   - component system to accommodate different volume levels
   - sophistication of equipment varies

2. Interloan telecommunications systems should be efficient
   - do the tasks we want
   - do the tasks in a timely fashion

3. Interloan telecommunications systems should be cost effective
   - costs comparable to current costs
   - cost to borrow on interloan must be less than to buy

4. Interloan telecommunications systems should be useable for a variety of interloan patterns
   - hierarchical, point to point, broadcast, round robin

5. Different telecommunications systems should be compatible
   - ability to communicate with other systems
   - tie together different systems

6. Some desirable physical characteristics of telecommunications systems are:
   - quiet; less noise than TWX
   - can be used in nonpublic and public areas of a library
   - requires minimum site preparation
   - doesn't require much space; is small

7. Interloan telecommunications systems should interface with other in-house systems

8. Interloan telecommunications systems should be useful for more than interlibrary loan

9. Interloan telecommunications equipment should be able to be used by more than one library

10. Short-term and long-term planning for interloan telecommunications is needed
    - based on telephone lines now but other options possible in future

B. Library Needs Assessment

In addition to identifying the above general telecommunications needs, the Interlibrary Loan Telecommunications Committee developed the following guidelines for a library selecting an interloan telecommunications system:

For interlibrary loan services, a library may choose one or more of several telecommunications options now or soon to be available. These options range from manual to electronic systems, from relatively simple to complex. To select the optimum system or systems requires a library to first address several factors or needs involving interlibrary loan in general and telecommunications systems in particular. Such factors may include:

1. The purpose and importance of interlibrary loan in the total mission and service function of the library
   - who is to be served
   - on-site users
   - other libraries/institutions
   - priority of interlibrary loan in the total context of library services

2. Community/client support for changes in existing interlibrary loan service.

3. Expectations to be met by interlibrary loan system in terms of Fill Rate vs Turn-Around Time vs Cost.

4. Interlibrary Loan Patterns
   - will telecommunications system enhance use of existing inter-library loan patterns
   - are there special or unique patterns not recognized in The Wisconsin Interlibrary Loan Guidelines that require a specific telecommunications system

5. Nature and type of materials requested via interloan and the libraries that must be accessed to obtain them.

6. Volume of interloan traffic
   - will a system adequately serve the number of interloan trans-actions to be processed

7. Cost of interloan telecommunications system
   - staff salary/benefits
   - cost of system components - i.e. equipment, transmission charges, user fees

8. Technical support available to provide assistance in planning, developing, implementing, operating, and maintaining the system.

9. Staffing requirements
   - additional staff required
   - retraining existing staff
   - changing levels of staffing

10. Components of the interlibrary loan operation that must be met by a telecommunications system:

    - verification
    - sort and edit messages
    - delivery
    - automatic referral

11. Need to use equipment for other library operations in addition to interlibrary loan.

12. Need to use equipment which is compatible with that owned by libraries you want to access.

SECTION IV. INTERLIBRARY LOAN TELECOMMUNICATIONS OPTIONS

The charts on the following pages were developed by the Interlibrary Loan Telecommunications Committee to help librarians analyze and assess the various telecommunications options. Information is provided on eleven different options.

CHARACTERISTICS	TELECOMMUNICATIONS OPTIONS										
	Mail	Telephone	TWP	TWX	Van	Terminal to Terminal	Terminal to Main Frame*	Telefacsimile	OCLC	Integrated Library System	Microcomputer
SPEED Preparation	ALA or other forms--difficult to type. 5-10 minutes per request	Preparation done by receiving library	Prepared online transmission	Paper tape preparation 3 minutes per request		Input into storage device. 2 minutes/request	Typing speed. 2 minutes/request	Typing speed. 2 minutes/request	3 minutes/request	3 minutes request	Depends on software. 2 minutes/request
Transmission	Slow, but dependable. 3-7 days	Immediate	Typist speed. Lines have to be open. 3 minutes/request	110 baud. 45 seconds/request	Depends on van schedule. 1 day - 1 week	Unattended. 300-1,200 baud. 6-15 seconds/request	Unattended. 300-1,200 baud. 2 minutes/request	1 minute/page. 4 requests/page	Unattended. Instantaneous	Instantaneous	Unattended. 300-1,200 baud. 6-15 seconds per request
ACCOMMODATION OF INTERLIBRARY LOAN VOLUME	Practical for low volume	Practical for low volume	Practical for low-medium volume	Practical for medium-high volume	Practical for low volume	High volume	High volume	Low-medium volume	High volume - with micro-enhancer	Low-medium volume	High volume
COSTS (initial)	Multipart Forms	Telephone purchase or rental and installation	Installation no longer available	Purchase price or installation price	Cost of van	Equipment purchase (terminal, modem and storage device). Installation. Possible other uses.	Equipment purchase (terminal and modem). Installation. Possible other uses.	Equipment purchase. Installation. Possible other uses.	Terminal, modem & printer--may be shared with other departments. Installation.	Equipment purchase may be shared with other departments. Installation.	Equipment--may be shared with other department. Software, modem, microcomputer, disk drive, monitor, printer.
COSTS (ongoing)	Postage, supplies	Phone charges (including long distance or network access)	$130 lease per month, plus supplies	Supplies. Network access $44 per month. Equipment lease $99 per month. Maintenance if owned.	Gas, insurance, maintenance	Maintenance, if owned. Supplies. Equipment lease, if not owned. Phone line.	Supplies. Phone lines. Maintenance if owned. Equipment lease if not owned. TELENET, TYMNET or UNINET charge. Electronic mail charge.	Supplies. Phone lines. Maintenance, if owned. Equipment lease if not owned.	Supplies. Cost per request $1.16. Terminal maintenance. Dedicated line charge. CON/L fee.	Equipment lease. Phone lines. Maintenance of purchased equipment.	Supplies. Maintenance. Phone charges.
STAFF (see also Speed)	Minimal training	Minimal training	Medium training	Medium training	Minimal training	Medium training	Medium training	Minimal training	Extensive training	Where searching element is involved will require extensive training.	Medium to extensive, depending on software.
NETWORKING ARRANGEMENTS (Patterns, how many libraries, compatibility)	You can contact anybody	You can contact anybody	Limited to other TWP	Limited to contact to other TWX. Can be compatible to (Easylink) electronic mail.	Limited network	Must have compatible equipment for direct connect.	Access to others on same electronic mail system.	Must have compatible equipment.	Only to other OCLC. Only for items in data base.	Compatible equipment for specific group.	Can operate as terminal. Can access other compatible equipment.
ADVANTAGES	Can send original--including pictures or diagrams.	Immediate feedback. Multi-use equipment.	Broadcast and round robin capability.	Offline preparation. Automatic receiving.	Can take copies. Can send originals.	Multiuse equipment. Can have automatic redial. Offline preparation.	Not dependent on open phone line. Multiuse equipment.	Can send copy of original request. Document Delivery.	Can use dial-up terminal. Not dependent on open phone line. Use for other purposes. Automatic routing. Automatic status report.	Not dependent on open phone line. Availability apparent--searches circulation. Automatic routing. Automatic status report.	Offline preparation. Multiuse equipment. Can have automatic redial. Depends on software.
DISADVANTAGES	No immediate response	No paper copy. Potential for high error rate. Line can be busy or no answer.	Online preparation. Line can be busy.	Noisy. Line can be busy.	Local only.	Line can be busy if no automatic redial. For efficiency, must have storage device.		Photocopy before you can send--can't send charts and photos. Line can be busy. Equipment is being improved. Better to lease than purchase.	Can't send free text messages.	Group limited to those on system.	Line can be busy if no automatic redial.

*See attached chart for specific examples.

BEST COPY AVAILABLE

SPECIFIC TERMINAL TO MAINFRAME (See other Chart for general)

	Easylink (and other TWX compatible services)	BRS (and other bibliographic utilities)	Ontyme II	MACC (or other local computer system)**	OCLC (or other formatted system)
Initial Cost	None		Annual $100 charge.	None	See previous page.
Ongoing Cost	$25/month access charge. $18/hour for message units.	Rates dependent on guaranteed usage--$16 - $35/hour.	Usage $3/hour. Input charge .25 per 1000 characters. Storage charge .01 per 1000 characters per day.	75¢/message (MACC's estimate).	
Cost per Request	*MCW 69¢ Jan. - July 1983.	53¢ - $1.16 per message.	MCW - 60¢ Sept. '82 - May '83.	75¢/message per MACC.	
Networking	Other Easylink and other TWX.	Only to other subscribers.	Only to other subscribers.	Only to other subscribers.	
Advantages	Compatible to TWX network. Saves equipment rental.	Access to bibliographic utilities. Can mount private holdings database. Already a lot of subscribers.		Local accountability.	
Disadvantages	Rejects messages for TWX after 2 hours of attempted delivery.				

* MCW = Medical College of Wisconsin
**MACC = Madison Academic Computer Center

SECTION V. RECOMMENDATIONS OF THE WISCONSIN INTERLIBRARY LOAN TELECOMMUNICATIONS COMMITTEE FOR INTERLIBRARY LOAN TELECOMMUNICATIONS IN WISCONSIN

A. Assumptions

1. Many Wisconsin librarians are ready and waiting to make changes in interloan telecommunications equipment and want guidance as to what to buy.

2. TWX and TWP are not recommended for use by Wisconsin libraries. Use of this equipment should be phased out.

3. No one interloan telecommunications method needs to be used by all libraries in Wisconsin. Rather, a variety of options are viable and one or more may be used to meet a library's needs. However, the options need to be kept to a minimum for some libraries for the following reasons:

   a) it would be costly and inefficient to use several options
   b) there may be problems connecting and accessing the files that have been developed for a variety of options
   c) compatibility with other libraries is a major concern

4. Large resource libraries, including state level resource libraries such as Reference and Loan, WILS and MPL should not be expected to have to respond to all of the possible equipment options with which libraries may wish to access them. Rather, these libraries may need to limit the kinds and number of equipment options or systems on which they will accept requests. These libraries need to be responsive to users, while at the same time being conscious of overall costs and operating efficiencies.

5. Electronic mail is a viable option for some libraries for interloan telecommunications. Reference and Loan and WILS should choose one electronic mail system by which libraries can access them. Reference and Loan and WILS should not be expected to subscribe to several electronic mail systems.

6. Microcomputers are a viable option for interloan telecommunications. However, in order to make microcomputers efficient as interloan telecommunications methods statewide, more detailed work on software and hardware requirements is necessary. Sending requests via microcomputers from the area level to the state level and back down from the state level to the area level (e.g., to and from systems) should be looked at first.

7. If a library chooses to select and use software and equipment other than that recommended by the Committee, Reference and Loan and WILS should not be responsible for the training and support necessary to get the equipment and software working.

B. Recommendations

The Committee recommends that there be short-term and long-term stages of development for interloan telecommunications using microcomputers. The short-term stage would provide for communications and formatting of interloan messages. The long-term stage would include communications and formatting, as well as recordkeeping/database management functions. The Committee also recommends that while formatting software is under development there be an option for libraries having an emergency and needing to replace their current equipment or libraries willing to commit their own staff time in support of experimentation.

1. SHORT-TERM MICROCOMPUTER RECOMMENDATIONS

A. Equipment for libraries

1. IBM-PC (256 K)
   Hayes Smartmodem 1200
   2 360 K disk drives
   IBM Monochrome display
   Monochrome display/printer interface card
   120 cps printer
   Serial card (modem interface)
   Assorted cables, manuals, etc.

2. Apple IIe

   (equipment package to be recommended by DLS)

It is recommended that if libraries need to purchase microcomputer equipment for ILL they purchase IBM.

B. Telecommunications software for libraries:

1. PC-Talk for IBM
2. (Apple software to be recommended by DLS)

C. Telecommunications software for RLL, WILS, MPL:

Bulletin Board System (RBBS-PC)

D. Formatting software for libraries: Adapt MITINET/MARC for use in sending formatted interlibrary loan messages.

E. Interim (Emergency) Option

1. Equipment for libraries (same as A)
2. Telecommunications software for libraries (same as B)
3. Telecommunications software for RLL, WILS, MPL (same as C)
4. Word processing software for libraries: (to be recommended by DLS)

The Committee recommends that there be test periods for components of the short-term recommendations. The Bulletin Board System needs to be tested and the formatting software will need to be tested.

The Committee recommends that any testing that needs to be done, be done in libraries that are already using microcomputers for interloan. This would save time.

The Committee recommends that formatting software not be developed from scratch because that would not be short-term. The Committee said it is preferable to use something that exists or to adapt something that exists. The Committee recommends that if MITINET/MARC is not possible, then they would like to further investigate other options such as modifying an existing formatting program.

The Committee recommends that further consideration be given to library to library communication and communication within areas. It is suggested that if the BBS software works at the state level then perhaps it could be adapted at the area level for system resource libraries or other libraries.

2. LONG-TERM MICROCOMPUTER RECOMMENDATIONS

The Committee recommends that short-term developments be undertaken in conjunction with a long-range plan for interlibrary loan traffic management system and that the short-term developments lay the groundwork for development of a long-term system.

The functions recommended for the long-term include recordkeeping/database management functions, as well as communications and formatting.

3. SHORT-TERM REQUIREMENTS AND GUIDELINES FOR AN INTERLIBRARY LOAN TELECOMMUNICATIONS SYSTEM

A. Guidelines

1. The system should allow for sending and receiving formatted interlibrary loan requests.

2. The system should be implemented at test sites within six months of the recommended system being determined and starting date being set.

3. Initial participants should include the Reference and Loan Library, WILS, Milwaukee Public Library and up to six public library system resource libraries and WILS members.

4. The Reference and Loan Library, WILS and MPL should utilize or have access to telecommunications software which allows for the use of a dedicated microcomputer at Reference and Loan to receive message files from libraries without operator assistance each time a file is sent to the Reference and Loan Library from a sending library.

5. During the initial six month period, the system should be required to operate on only one equipment configuration.

6. This short term development should be undertaken in conjunction with a long-range plan for development of an interlibrary loan traffic management system and should lay the groundwork for continuing development of such a system.

B. GENERAL REQUIREMENTS:

1. The new system should allow for transmission of interlibrary loan requests between system resource libraries and WILS libraries and state-level clearinghouses and among selected state-level clearinghouses.

2. The new system should allow for uniform formatting and sending of requests.

3. The new system should allow for use of the state telephone or other state telecommunications system or a long-distance service of equivalent cost.

4. The basic operating costs of the new system should be equivalent to or lower than those of the old system with comparable functions.

5. The new system should not require extensive or specialized space or maintenance requirements.

6. The new system should have well documented procedures.

7. The system should include sufficient error messages to guide the user.

8. The new system should not require the equipment operator to have extensive knowledge of the equipment and software operation.

C. FUNCTIONAL REQUIREMENTS:

1. Subsystem 1: Sending requests from a system resource library or WILS library to a state-level clearinghouse or among state-level clearinghouses.

   a. The sending library should be able to input data by using a formatted screen or screens which prompt the user with each data element for author/title requests and subject reference requests.

      Input of data into a minimum number of fields should be mandatory; input of data into other fields should be optional. Suggested mandatory fields are symbol of institution, request number, date item requested, and title.

   b. The system should be able to automatically date the request, assign a unique number to the request, and record the sending library name on each request.

   c. The sending library should be able to type, edit or delete data offline prior to transmission of message.

   d. The system should allow for transmission at 1200 bps.

   e. The system should allow for addition of free text at the beginning or end of a file of requests.

   f. The system should allow the sending library and receiving library to obtain a record of messages in print and machine-readable form to retain for a short time period (one week).

g. The system should allow for two way transmission and automatic sending of replies for a library immediately following receipt of requests from a library.

h. The system should utilize commercial or public domain software with a minimum of the following telecommunications functions, preferably integrated or contained on a single disk.

i. Communications protocols:

Asynchronous communication
RS232 interface
ASCII code
Duplex mode selection (both half and full duplex) and echo/no echo function.
XMODEM protocol
1200 bps
Communications parameter selection (bps rate, number of data bits, parity error checking, and number of start/stop bits). Must be able to set default values and modify them.
File transfer (send and receive both text and binary files)
Data Capture (disk to disk)
Break signal
View a file saved on disk
Delete a file saved on disk
Print a file saved on disk
File name protection (will not erase file if two files with same name are sent)
Command and interactive modes
Manual and Auto-dial modem support (but no delayed dial capability)
Telephone hangup
Dialing directory (Set-up and change)
Allows use of function keys and set-up of functions key directory (macros)
Display elapsed time
Disk directory listing

2. Subsystem 2: Receiving requests at a clearinghouse.

a. The system should allow for automatic answer at 1200 bps.

b. The system should allow for receipt of formatted author/title and subject/reference requests and free text messages at the beginning or end of a file message.

c. The system should allow for storage of incoming requests which have not been processed by staff for up to 500 requests.

d. The system should allow for printing of incoming requests upon command.

SECTION VI. INTERLIBRARY LOAN TELECOMMUNICATIONS PROJECT IMPLEMENTATION PROGRESS

September 1984 - July 1985

During the 1984-85 fiscal year the LSCA Advisory Committee recommended setting aside funds to implement the recommendations of the Interlibrary Loan Telecommunications Committee. The following steps have been carried out at a cost of $59,813. These steps provide for implementation of a new means of telecomunications for sending and receiving interlibrary loan requests and for future experimentation in improvement of internal handling of interlibrary loan requests.

1. Purchase and installation of equipment for WILS (Wisconsin Interlibrary Services).

   An IBM-PC microcomputer package, including the computer, monitor, modem, and printer were purchased and installed. WILS is currently operating the bulletin board system for use by its members and public library system clearinghouses.

2. Purchase and installation of equipment for Milwaukee Public Library.

   An IBM-PC microcomputer package, including the computer, monitor, modem, printer, terminal table, and software were purchased and installed. Milwaukee Public Library staff have been trained and are currently operating the bulletin board system for use by public library system clearinghouses and other authorized users.

3. Purchase and installation of equipment for the Reference and Loan Library.

   This installation included setting up two workstations for staff, the bulletin board system, a hard disk, and a local area network to tie all the stations together. This configuration will allow the Reference and Loan Library to experiment in the future with use of a local area network to facilitate work flow and use of a database for management of interlibrary loan requests. The bulletin board system is in operation and the local area network and hard disk are currently being installed.

4. The bulletin board software has been configured and set up to operate in an identical fashion at the Reference and Loan Library, WILS, and Milwaukee Public Library.

   The configuration was developed by the staff of the Reference and Loan Library and WILS at a series of meetings.

5. A manual for libraries to call the bulletin board system has been developed, published and distributed to libraries.

   Division and WILS staff experimented with telecommunications and word processing software and selected software to be supported for the IBM-PC and the Apple microcomputers. Step-by-step procedures were developed and tested for setting up and using this software. The manual outlined the basic operation of the bulletin board and the steps for use of each kind of computer to access the bulletin board system.

6. Equipment has been purchased and installed in six public library system clearinghouses in the Fox Valley: Green Bay, Manitowoc, Appleton, Oshkosh, Sheboygan, and Fond du Lac.

Each public library system received an IBM-PC microcomputer package, including computer, monitor, modem, printer, software, and manual. The equipment has been installed and staff will be trained. When the equipment and procedures are working satisfactorily, the TWP machines will be removed and a substantial cost savings will be realized. Procedures for communication among these libraries are being developed.

7. Training sessions on use of the bulletin board system for interlibrary loan have been held.

   Training sessions on use of the bulletin board system for interlibrary loan have been held for four public library system staff. The sessions have been attended by representatives of other types of libraries in some cases.

8. 1986-87 fiscal year LSCA grants were awarded to Nicolet Federated Library System and Southwest Wisconsin Library System to operate the bulletin board system within those system areas.

   Each system will set up the bulletin board system on an IBM-PC (or compatible) equipment and use it to send and receive interlibrary loan messages to participating libraries within the system area.

9. A manual for operation of the bulletin board system by Reference and Loan, Milwaukee Public and public library system clearinghouses has been developed. It will be available by September. WILS has developed a manual for its internal procedures.

Continued planning for the development or purchase of software to allow for the formatting of interlibrary loan messages and creation of a database will be carried out by the Division staff. Background papers and specifications developed by the Interlibrary Loan Telecommunications Committee will be used as the basis for continued planning and potential implementation of future projects.

In 1984-85 the Division for Library Services used LSCA funds to support an ALANet project. This project was not funded to test the use of this particular electronic mail system for sending and receiving interlibrary loan messages. Rather, the project was funded for two other purposes. One was to give public library systems access to the information available on the ALA bulletin boards and newsletters via ALANet. The other was to establish an electronic mail network whereby the Division for Library Services and the public library systems could communicate with each other. As of July 1, 1985 all public library systems had the appropriate equipment for using ALANet, had received training, and were experimenting with ALANet to see how it worked as an electronic mail system and as a library information source. At the end of the project the costs for the use of ALANet for the above purposes will be analyzed and evaluated.

APPENDIX A

FORMATTING OPTIONS FOR INTERLIBRARY LOAN REQUESTS CONSIDERED BY THE COMMITTEE

A potential requirement in the design of an interlibrary loan system would provide the user the ability to create interlibrary loan messages according to a standard format. A formatted message could be created in a number of ways. Four potential types or methods of formatting are described below with advantages and disadvantages. Actual systems may use variations of these options, but it was felt this represented a reasonable continuum of formatting methods.

1. FORMAT ENTERED BY USER

A standard could be developed for formatting of interlibrary loan messages. This standard would be mutually agreed to by all parties using it and published in a manual with instructions. Messages would be voluntarily entered one at a time according to this format. Messages would be entered as free text. The system would allow for entry and editing of text. This process is currently used when transmitting messages via TWX, TWP, or terminal. If a microcomputer is used, word processing capability would be needed.

Advantages:

- Non-standard information which is not included in the format can be added easily.
- Requires no development of interlibrary loan software.
- Depending on equipment configuration, may allow off-line entry of records.
- System is currently used and retraining in use of format would be minimal.

Disadvantages:

- Format can be changed by the user either advertently or inadvertently.
- Format must be remembered or referred to each time a message is sent. The system does not provide any prompts.
- Word processing software was not designed for use for interlibrary loan.
- Computer cannot distinguish between fields or pieces of information in the message.
- Experience has shown messages sent are often inconsistent.
- The message cannot be stored for retrieval.
- Requires retyping messages each time sent.
- Present fields cannot be automatically added to each request.

2. USE OF WORK FORM OR PREDETERMINED SCREEN FORMAT

It would be possible to use word processing or editing software to create a standardized work form to enter interlibrary loan information. This format could be saved on the word processor disk, called up, copied and used each time an interloan message is created. It is not necessary to use additional programs with word processing software.

Advantages:

- Formatting could be achieved if people adhered to the form and used it.
- No programming is required.
- Off-line entry of records would be possible.

Disadvantages:

- Format can be changed by the user either advertently or inadvertently.
- Individual messages could not be stored for retrieval. It may be possible to scroll through the whole file to locate a message.
- The entry of data which overflows the space allowed for each field would change the form and the format.
- Requires retyping messages each time sent.
- Present fields cannot be automatically added to each request.

3. USE OF SOFTWARE DESIGNED TO ALLOW DATA ENTRY FOR INTERLIBRARY LOAN MESSAGES

Software could be used or developed which would define the characteristics of each field to be created in the interlibrary loan message. The user would be prompted with each field and allowed to enter and edit data in each field. The fields could be tagged so that each record could be identified, stored, and retrieved.

Advantages:

- Formatting would be consistent from record to record.
- Formatting could not be changed by the user.
- Users could potentially use records in conjunction with a data base management system to store, sort, and retrieve messages. (This would be a long-term application).
- Preset fields could be added automatically to each request (i.e. date, name or symbol of library).
- Interlibrary loan software could be integrated with or placed on the same disk as the communications software eliminating the need to switch from one disk to another set up each program. (This might not be true if using a program which was not developed in-house.)

- The system would be designed for interlibrary loan and system commands would relate to interlibrary loan.

- Sender and receiver both use the same format consistently.

Disadvantages:

- Software would need to be developed if none were available.

- No advanced features (storage, avoidance of retyping, statistics) would be provided without use of a data base management system.

4. USE OF A DATA BASE MANAGEMENT SYSTEM

A data base management system could be selected and used to set up a format. Data base management systems vary considerably in features available and ease of use. To be easily used by interlibrary loan staff, it would be necessary to configure or program the system for interlibrary loan use. Unless this were done, the program would not be used consistently.

Advantages:

- A format could be developed and be enforced to some extent. The format could not be accidentally changed easily but a user could reconfigure the system.

- Off-line entry of records would be possible.

- Messages could be stored, sorted, and retrieved.

- Messages would not have to be retyped.

- Statistics could be maintained.

- If used for formatting purposes only, training would be equivalent to or slightly easier than using a word processor.

- A data base management system would replace the need for a word processor.

Disadvantages:

- Fixed length fields would have to be used. This would hamper data entry of some fields and increase transmission time.

- If any advanced features of a data base management system were used (i.e., sorting, statistics), extensive staff work would be needed to configure the system and extensive training would be required.

- While use of a data base management system begins to meet some advanced or long-term requirements as well as short-term requirements, the software selected to meet short-term goals would be unlikely to be used to design a system which would meet all long-term goals. Selection of software to meet long-term goals would have to be done after long-term requirements were completed and accepted and after careful analysis of a number of packages was undertaken. Selection and configuration of a data base management system would take more time than desirable to meet short-range goals. If one system were chosen for the short-term and other for the long-term, staff time and energy would be wasted.

(9/5/84)